## IN THE UNITED STATES DISTRICT COURT
## FOR THE EASTERN DISTRICT OF TEXAS
## MARSHALL DIVISION

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| SAINT LAWRENCE COMMUNICATIONS LLC, | § § § | |
| Plaintiff, | § § | |
| v. | § § | Case No. 2:16-cv-00082 |
| APPLE INC., AT&T MOBILITY LLC, and CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS, | § § § § | Jury Trial Requested |
| Defendants. | § § § | |

## DEFENDANTS' CLAIM CONSTRUCTION BRIEF

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| A-1 | *Saint Lawrence Commc'ns v. ZTE Corp.*, Case No. 2:15-cv-00349-JRG, Claim Construction Memorandum and Order, D.I. 236 (Oct. 25, 2016) ("Order").[1] |
| A-2 | Richard V. Cox, *Current Methods of Speech Coding*, Int'l J. High Speed Elecs. and Sys., Mar. 1997, at 13 ("Cox") (APL-SLC_00342912-APL-SLC_00342967). |
| A-3 | U.S. Patent No. 5,235,669 (filed June 29, 1990) (issued to Ordentlich et al.) ("Ordentlich") (APL-SLC_00344334-APL-SLC_00344341). |
| A-4 | Jürgen Paulus, et al., *Wideband Speech Coding for the GSM Fullrate Channel?*, in ITG-Fachbericht 139, Sprachkommunikation: Vorträge ITG-Fachtagung (Sept. 1996) ("Paulus") (SL00010825-SL00010828). |
| A-5 | C.H. Ritz et. al., *Lossless Wideband Speech Coding*, 10th Australian Int'l Conference on Speech Sci. & Tech., Dec. 2004 ("Ritz") (SL00022612-SL00022615). |
| A-6 | U.S. Patent No. 6,615,169 (filed Oct. 18, 2000) (issued to Ojala et al.) ("Ojala") (SL00022717-SL00022732). |
| A-7 | Paul Mermelstein, *G.722, A New CCITT Coding Standard for Digital Transmission of Wideband Audio Signals*, IEEE Commc'ns Magazine, Jan. 1988 ("Mermelstein") (SL00022604-SL00022611). |
| A-8 | Jürgen Schnitzler, *A 13.0 Kbit/S Wideband Speech Codec Based On SB-ACELP*, IEEE Int'l Conference on Acoustics, Speech and Signal Processing, May 1998, at 157 ("Schnitzler") (APL-SLC_00336631-APL-SLC_00336634). |
| A-9 | Bruno Bessette, et al., *The Adaptive Multirate Wideband Speech Codec (AMR-WB)*, 10 IEEE Transactions on Speech and Audio Processing 620 (Nov. 2002) ("Bessette") (APL-SLC_00336774-APL-SLC_00336790). |
| A-10 | VoiceAge, *Wideband Speech Coding Standards and Applications*, AMR-WB White Paper Rev. 2005-01. |
| A-11 | E-mail from. B. Davis on Dec. 20 at 8:31 AM PST. |
| A-12 | E-mail from M. McBride on Dec. 20 at 11:07 AM PST in response to an e-mail from |

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[1] In PACER this Order is labelled D.I. 236, but the Order itself is stamped as D.I. 235.

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|---|---|
| | B. Davis on Dec. 20 at 8:31 AM PST. |
| A-13 | Preliminary Constructions in *Saint Lawrence Commc'ns v. HTC Corp.*, Case No. 2:15-cv-00919 (from Markman Hearing on Jun. 29, 2016) ("Prelim. Const."). |
| A-14 | *Saint Lawrence Commc'ns v. ZTE Corp.*, Case No. 2:15-cv-00349-JRG, Plaintiff Saint Lawrence Communications LLC's Reply Claim Construction Brief, D.I. 210(Aug. 29, 2016) ("SLC Supp. Br."). |
| A-15 | *Saint Lawrence Commc'ns v. ZTE Corp.*, Case No. 2:15-cv-00349-JRG, Defendants' Sur-Reply to Plaintiff's Reply Claim Construction Brief, D.I. 211-1 (Sep. 6, 2016) ("Defs. Sur-reply"). |
| A-16 | '805 Patent File History, Interview Summary dated May 13, 2004 (SLFH00001379-SLF00001388). |
| A-17 | '805 Patent File History, Examiner's Amendment dated June 16, 2004 (SLFH00001389-SLF00001412). |
| A-18 | *Saint Lawrence Commc'ns v. ZTE Corp.*, Case No. 2:15-cv-00349-JRG, Declaration of Tokunbo Ogunfunmi, Ph.D., D.I. 71-25 (Nov. 30, 2015) ("Prior Ogunfunmi Decl."). |
| B | Declaration of Michael D. Kotzin, Ph.D. ("Kotzin Decl.") |
| B-1 | Paul Mermelstein, *G.722, A New CCITT Coding Standard for Digital Transmission of Wideband Audio Signals*, IEEE Commc'ns Magazine, Jan. 1988 ("Mermelstein") (SL00022604-SL00022611). |
| B-2 | Jason A. Fuemmeler et. al, *Techniques for the Regeneration of Wideband Speech from Narrowband Speech*, 2001 EURASIP J. Applied Signal Processing 266 (Sept. 2001) (hereinafter "Fuemmeler") (SL00022595-SL00022603). |
| B-3 | C.H. Ritz et. al., *Lossless Wideband Speech Coding*, 10th Australian Int'l Conference on Speech Sci. & Tech., Dec. 2004 ("Ritz") (SL00022612-SL00022615). |
| B-4 | U.S. Patent No. 6,615,169 (filed Oct. 18, 2000) (issued to Ojala et al.) ("Ojala") (SL00022717-SL00022732). |
| B-5 | Jürgen Schnitzler, *A 13.0 Kbit/S Wideband Speech Codec Based On SB-ACELP*, IEEE Int'l Conference on Acoustics, Speech and Signal Processing, May 1998 ("Schnitzler") (APL-SLC_00336631-APL-SLC_00336634). |
| B-6 | *Saint Lawrence Commc'ns v. ZTE Corp.*, Case No. 2:15-cv-00349-JRG, Declaration of Tokunbo Ogunfunmi, Ph.D., D.I. 71-25 (Nov. 30, 2015) ("Prior Ogunfunmi Decl."). |

I.      **Introduction**

The Court has construed several terms of the Asserted Patents in a set of related cases. D.I. 236 ("Order") in Case No. 2:15-cv-349 ("349 Action").  Defendants' briefing focuses on terms and constructions not fully addressed by the prior briefing and Order.  Defendants first seek to clarify that, in accordance with the explicit definition in the specification, "wideband signal" requires not only a specific bandwidth, but also a specific sampling rate of 16,000 samples per second.  Defendants also seek to clarify an ambiguity in the Court's Order and confirm that, consistent with the specification and usage in the industry, a lower sub-band of the wideband signal is not itself a "wideband signal."  Next, Defendants request that the Court consider additional evidence and argument regarding the terms "high frequency content" and "low frequency content."  Although the Court previously found that these terms were limiting, but not indefinite, the Court was not presented and did not consider argument and evidence showing the specification's use of "high frequency" and "low frequency" in multiple different and conflicting contexts renders certain claims indefinite.

Defendants also address four terms not fully briefed previously.  First, Defendants request construction of the term "fixed denominator" in accordance with the term's use in the prosecution history.  Second, the preambles of the independent claims of the '805 Patent are limiting because they (a) provide antecedent basis for terms in the body, (b) are necessary to describe the complete invention, and (c) were amended during prosecution at the request of the Examiner.  Third, the term "wherein $\gamma2$ is set equal to $\mu$" is indefinite because it lacks antecedent basis.  Specifically, while "$\mu$" is defined in certain dependent claims, the challenged claims do not depend from claims in which "$\mu$" is defined.  Finally, Defendants request construction of "said excitation signal" to confirm the structure of the claims in which that term appears.

While Defendants address these six terms in light of the Court's prior Order, Saint Lawrence Communications LLC's ("SLC") Opening Brief ("SLC Br.") ignores that Order.[2]  For example, SLC makes the same arguments that "high frequency content" and "low frequency portion" are not limiting, without acknowledging the Court's Order to the contrary, much less the Court's reasoning.  *See* SLC Br. at 13–16.  SLC's arguments are wrong for the same reasons the Court has explained.

Based on the new evidence and arguments below, which were not previously before the Court, Defendants respectfully request that their constructions be adopted.

## II.     Background of the Asserted Patents

The five Asserted Patents relate to speech coding technology generally, and more specifically to variations of a well-known speech coding technique known as CELP (Code Excited Linear Prediction).  The patents purport to claim "additional features" added in efforts to "optimize[]" the "CELP model to wideband signals."  '805 Pat. at 2:15–19.  The Defendants refer the Court to their Technology Tutorial submitted on December 2, 2016 for background on the technology.

Four of the five asserted patents in this case, the '802, '805, '524, and '521 Patents (collectively with the '123 Patent, the "Asserted Patents") stem from a common Canadian application filed in October 1998.  The other patent, the '123 Patent, stems from another Canadian application filed in November 1999.  The Asserted Patents generally share the same figures and specification, with minor differences that relate to the specific claims of each patent.

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[2] SLC not only fails to address the Court's prior Order, it ignores the limited issues Defendants have proposed for briefing and makes generalized arguments regarding Defendants' constructions that are not applicable to the terms the parties are briefing.  *See* SLC Br. at 1–2.

Figures 1 and 2 of the Asserted Patents illustrate the encoder and decoder of a preferred embodiment.  The standard components of a CELP encoder and decoder include a pitch codebook (201), innovative codebook (218), and linear prediction filter (206) respectively, as shown below in Figure 2.
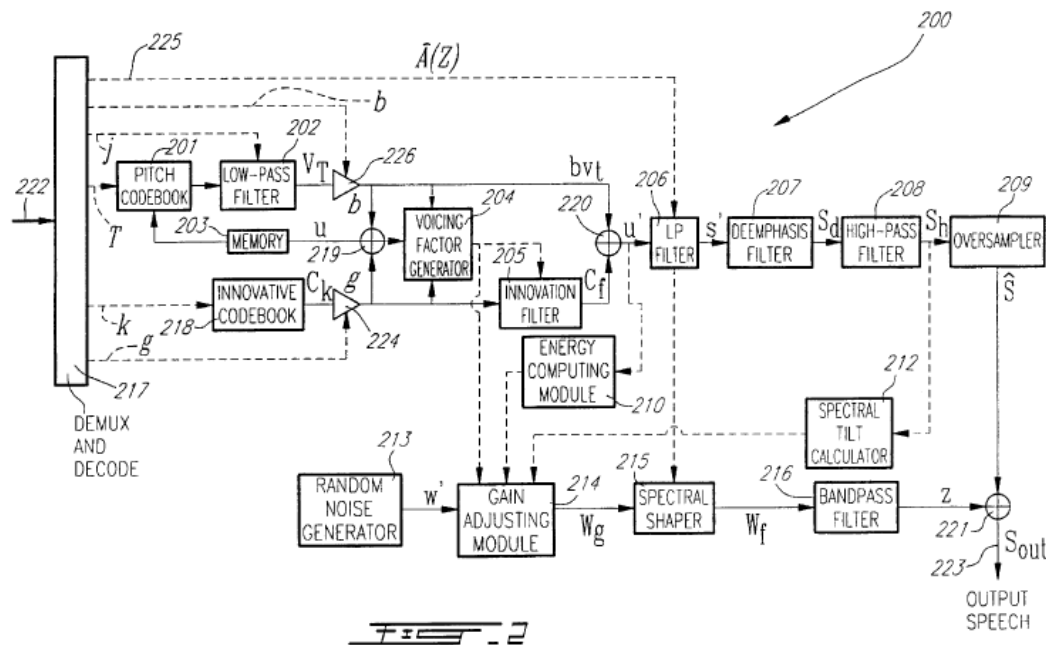


## III.    Disputed Terms Requiring Construction

### A.      "[synthesized] [weighted] wideband [speech] signal"

| Plaintiff's Construction | Defendants' Construction |
|---|---|
| No construction necessary. Alternatively: "a [synthesized] [weighted] [speech] signal that spans a wider bandwidth than traditional telephone signals and that has a frequency range of approximately 50–7000Hz" | "a [synthesized] [weighted] [speech] signal that spans a wider bandwidth than traditional telephone signals and that has a frequency range of 50–7000 Hz sampled at 16000 samples/sec" |
| This term is found in the following claims of the asserted patents: '805 Patent Claims 1, 2, 3, 6, 11, 21, 22, 23, 26, 31, 32, 33, 36, 51, 61; '524 Patent Claims 1, 8, 9, 15, 29, 36; '802 Patent Claims 1, 2, 3, 8, 9, 10, 11, 12, 16, 25, 33, 49, 50; '123 Patent Claims 1, 2, 3, 4, 5, 6, 10, 11, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25, 26, 31, 34, 35, 53, 54, 55, 56, 57, 58, 62, 63, 66, 67, 69, 70, 71, 72, 73, 74, 78, 79, 82, 83, 102, 103; and '521 Patent Claims 10, 28, 37. ||

In the prior cases, the Court construed this term to mean "a [synthesized] [weighted] [speech] signal that spans a wider bandwidth than traditional telephone signals and that has a frequency range of approximately 50–7000Hz" and rejected the argument that "'information' in the signal must be present at all frequencies within the bandwidth."  Order at 112–13.  Here, Defendants' proposed construction tries to resolve two remaining disputes between the parties: first, "wideband signal" should be construed consistent with the express definition in the specification and its established plain and ordinary meaning to require not only a specific bandwidth, but also a specific sampling rate.  Second, a wideband signal that is intentionally "down-sampled" to extract a sub-band is not itself a "wideband signal."  The specification does not refer to the down-sampled signal as a wideband signal.  That is because the specification describes down-sampling at the encoder to create a lower sub-band that is only a portion of the input wideband signal (a well-known technique known as "split-band" processing).

**1.  The patents define wideband signal to require a 16,000 Hz sampling rate**

Defendants' construction is taken directly from the specification, which states:  "In wideband speech/audio applications, the sound signal is band-limited to 50–7000 Hz and sampled at 16000 samples/sec."  '805 Pat. at 2:12–14.  This express definition of "wideband [speech] signal" supports Defendants' construction for two reasons.  First, it confirms the established plain and ordinary meaning of the term as used in these patents.  Second, to the extent SLC contends the plain and ordinary meaning is different, this passage demonstrates express lexicography overriding any such differences.  *See Sinorgchem Co., Shandong v. Int'l Trade Comm'n*, 511 F.3d 1132, 1136 (Fed. Cir. 2007) ("the word 'is,' again a term used here in the specification, may 'signify that a patentee is serving as its own lexicographer'") (citations omitted); *Cell & Network Selection LLC v. AT&T Inc.*, No. 6:13-CV-403, 2014 WL 3671029, at *7 (E.D. Tex. July 23, 2014) (holding that the specification defined the term "paging channel" by

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stating that a "'paging channel *is* an encoded, interleaved, spread, and modulated spread spectrum signal that is used by mobile stations operating within the coverage area of the base station'") (emphasis in original)[3].

This explicit definition confirms both (a) the established ordinary meaning requires not only a specific bandwidth, but also a specific sampling rate, and (b) a wideband signal down-sampled to 12,800 samples/sec is no longer a wideband signal.

### 2. The specification does not describe down-sampled signals as "wideband signals"

SLC attempts to override the specification's explicit definition by arguing that the definition of "wideband signal" should be modified to encompass the specification's discussion of down-sampling.  SLC Br. at 6.  This argument fails because neither the portions of the specification SLC cites nor the related discussions refer to down-sampled signals—signals with a sampling rate of 12,800 samples/sec and a frequency range from 50–6400 Hz—as "wideband signals."  As discussed below in Section III.A.4, a person of ordinary skill would understand that the specification is discussing extracting and processing a "lower sub-band" of the wideband signal using the well-known "split-band" processing technique.

On the decoder side, the specification discusses several signals—"s', $s_d$, and $s_h$." *See* '802 Pat. at 17:28–47.  The specification does not describe any of these signals, each of which is sampled at 12.8 kHz, as "wideband signals." *See id.*; *see also id.* at 7:64–66 (defining s' as "Synthesis signal before deemphasis;" $s_d$ as "Deemphasized synthesis signal;" and $s_h$ as "Synthesis signal after deemphasis and postprocessing"); Kotzin Decl. at ¶ 48.  It is not until the output of the "oversampling" process that "converts [the down-sampled signal] from the 12.8 kHz sampling rate to the original 16 kHz sampling rate" that the specification refers to the signal

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[3] All emphasis of quoted material in this Brief was added by Defendants unless otherwise noted.

using the term "wideband," specifically "the synthesized wideband intermediate signal."  '802

Pat. at 17:49–56; Kotzin Decl. at ¶ 48.   Even then, the signal is referred to as a wideband

*intermediate* signal because it is sampled at the defined sampling rate for a wideband signal, but

does not include the full frequency bandwidth from 50–7000 Hz.  '802 Pat. at 17:54–64 ("The

oversampled synthesis Ŝ signal does not contain the higher frequency components which were

lost by the down-sampling process (module 101 of FIG. 1) at the encoder 100. This gives a low-

pass perception to the synthesized speech signal."); Kotzin Decl. at ¶¶ 48-49.

Likewise, on the encoder side, the specification refers to a "down-sampled pre-processed

signal [] denoted by $s_p(n)$" and a subsequent "output of the preemphasis filter 103 [] denoted

s(n)."  '802 Pat. at 8:50–51, 9:7.  Again, these signals are not labeled wideband.  Kotzin Decl. at

¶ 50.  As SLC notes, however, the specification labels the signal "s" a "Wideband signal input

speech vector (after down-sampling, pre-processing, and preemphasis)."  SLC Br. at 7 (quoting

'524 Pat. at 7:2–3); '802 Pat. at 7:58–59; Kotzin Decl. at ¶ 51.  But this label does not make "s" a

wideband signal.  Kotzin Decl. at ¶ 51  To the contrary, this label describes the processing chain

that led to generation of the signal "s."  The signal "s" is the "input speech vector" to block 105

in Figure 1 as it exists "after down-sampling, pre-processing, and preemphasis" of the original

"wideband signal."  *See* Kotzin Decl. at ¶ 51.  SLC's interpretation is, thus, at best, one of many

interpretations of a single ambiguous quote.  And SLC's interpretation is contrary to the explicit

definition discussed above.  A patentee cannot use ambiguous "language in the specification to

support a broad claim construction which is otherwise foreclosed." *Trs. of Columbia Univ v.*

*Symantec Corp.*, 811 F.3d 1359, 1366 (Fed. Cir. 2016); *see also Starhome GMBH v. AT&T*

*Mobility LLC*, 743 F.3d 849, 857 (Fed. Cir. 2014) ("Figure 2 inserts ambiguity as to whether the

patentees intended to depart from the ordinary meaning of 'intelligent gateway.' But such ambiguity does not rise to the level of the clear intent our case law requires.").

### 3. SLC's other intrinsic record citations do not overcome the specification's definition of wideband signal

SLC's remaining citations do not accurately characterize the patents and instead rely on incomplete quotations and mismatched combinations of claim and specification language. For example, SLC notes that Claim 8 of the '524 Patent recites a "weighted wideband speech signal." SLC Br. at 8 (citing '524 Pat. at 19:5–9). SLC then argues that "the preferred embodiment of Figure 1 places the 'perceptual weighting filter 105' *after* 'the down-sampling module 101" and "[a]s a result, the 'weighted wideband speech signal' in the preferred embodiment was previously down-sampled . . . ." *Id.* at 8–9 (emphasis in original). But there is no "'weighted wideband speech signal' in the preferred embodiment." That term appears only in Claim 8. '524 Pat. at 19:5–23. The preferred embodiment references a "weighted signal $S_w$(n)," but does not reference "wideband." *Id.* at 8:66. And there is no "down-sampling module 101," nor any mention of down-sampling in Claim 8. *Id.* at 19:5–23.[4]

Likewise, SLC mismatches the words of the '802 Patent's claims and the specification's preferred embodiment. SLC notes that Claim 1 of the '802 Patent recites "a synthesized wideband signal" that is input to an "oversampler." SLC Br. at 8 (citing '802 Pat. at 20:7–10). But the preferred embodiment's description does not include "a synthesized *wideband* signal." It instead references a "synthesized signal s'," with no reference to "wideband." '802 Pat. at 17:26–27.

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[4] The specification, in fact, states that down-sampling an input wideband signal is "not essential." *See* '524 Pat. at 8:53–56; '802 Pat. at 8:39–43.

Thus, SLC's arguments fail because there is no evidence that the patentees intended for the use of different claim and specification language to override the specification's explicit definition and consistent usage of "wideband signal."  The differing language between the claims and the specification indicates a difference in scope between the two.  *See Acumed LLC v. Stryker Corp.*, 483 F.3d 800, 807 (Fed. Cir. 2007) (holding that differing specification and claim language "suggests that the patentees knew how to restrict their claim coverage," but chose not to); *see also Helmsderfer v. Bobrick Washroom Equip., Inc.*, 527 F.3d 1379, 1383 (Fed. Cir. 2008) ("It is often the case that different claims are directed to and cover different disclosed embodiments. The patentee chooses the language and accordingly the scope of his claims.").

SLC also argues that "the '802 Patent recites 'a wideband signal *previously down-sampled* during encoding,'" and that this recitation is inconsistent with Defendants' construction. SLC Br. at 7 (emphasis in original).  But SLC's quotation is incomplete.  Claim 1 of the '802 Patent recites "receiving an encoded version of a wideband signal previously down-sampled during encoding" and extracting the encoded parameters.  '802 Pat. at 19:57–62.  As the complete quotation shows, the claim refers to an "encoded version" of a wideband signal following down-sampling, not a wideband signal itself.  *See id*.

Finally, SLC cites a passage describing creating white noise at the decoder to replace the non-transmitted upper sub-band, including passing the created noise through a band-pass filter with limits of "5.6–7.2 kHz."  SLC Br. at 6 (citing '805 Pat. at 17:64–18:4).  SLC assumes too much in arguing this passage defines a signal extending to 7.2 kHz as a "wideband signal."  *See id*.  The cited passage is part of an explanation of how "[t]o restore the full band of the original signal."  '805 Pat. at 16:29–30.  The "full band of the original signal" is the input wideband speech extending to 7,000 Hz at 16,000 samples per second.  *See id.* at 2:12–13 *and* 7:17–21.

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Thus, restoring the full band requires regenerating an upper sub-band from 6.4 kHz to 7 kHz, consistent with Defendants' construction. *See id.* In any event, SLC does not explain how this example would justify altering the definition of "wideband signal" to include a lower sub-band intentionally terminating *far below* 7,000 Hz. *See also* Kotzin Decl. at ¶ 52.

### 4.  The extrinsic evidence confirms that the specification's definition of "wideband" is consistent with its ordinary meaning

The definition of "wideband signal" from the specification is consistent with that term's plain and ordinary meaning to persons of ordinary skill.  Several technical articles define wideband signals in terms of the specific limits of bandwidth and sampling rate in Defendants' construction. *See, e.g.*, Cox at 16 ("when we refer to *wideband speech*, we mean *speech with a bandwidth of 50–7000 Hz and a sampling rate of 16 kHz.*"); *see also* Ordentlich at 1:44–47 ("*wideband speech* is assigned the *band 50 to 7000 Hz and is sampled at a rate of 16000 Hz* for subsequent digital processing"); Paulus at 11 ("a *wideband coding scheme* would require *a sampling rate of 16 kHz*"); *see also* Kotzin Decl. at ¶¶ 42-43 *and* 53-57.

Even the extrinsic evidence that SLC cites defines wideband speech in terms of the required sampling rate (in addition to frequency). *See* Ritz at 249 ("*Wideband speech* refers to speech *sampled at 16 kHz . . . .*"); Ojala at 2:13-14 ("Speech coding of speech sampled using a *sampling rate of 16 kHz is called wideband speech coding.*"); Mermelstein at 10 ("The nominal 3-dB band of the codec was chosen as *50–7,000 Hz.* Two sets of identical quadrature mirror filters (QMF) are used to divide the *wideband signal sampled at a 16-kHz rate . . . .*"); *see also* Kotzin Decl. ¶¶ 53–57.  Thus, Defendants' construction stays true to both the specification's definition and the plain and ordinary meaning of the term as understood by a person of ordinary skill.

Moreover, the extrinsic record confirms the specification's discussion of down-sampling is a description of a prior art processing technique known as "split-band" processing. S*ee, e.g.*, '802 Pat. at 8:31–35; *see also* Kotzin Decl. at ¶¶ 44-47 *and* 58-61.  In split-band processing, the system takes an input signal (i.e., the wideband signal) and splits the input into sub-band signals. *Id.* at ¶ 47.  As the extrinsic evidence confirms, a sub-band of a wideband signal is not of the same bandwidth or sampling rate.  It is not a wideband signal.  *Id.* at ¶ 58-61.  For example, Mermelstein, cited by SLC, describes taking an input wideband signal and "*divid[ing] the wideband signal* sampled at a 16-kHz rate into two 8-kHz sampled components to be transmitted, *a low band and a high band*, and *reconstruct[ing] the wideband signal from its received low- and high-band components*."  Mermelstein at 10.  Consistent with industry usage, Mermelstein refers to the input signal and the "reconstructed" signal as "wideband signals," but does not use that label for the sub-bands.  *Id.*; Kotzin Decl. at ¶ 58.

Similarly, Schnitzler, describes "*extract[ing] the 0–6 kHz lower subband* from the input wideband (7 kHz) signal" by "reduc[ing] the sampling rate from 16 kHz to 12 kHz." Schnitzler at 157–58.  Again, Schnitzler labels the input a "wideband (7 kHz) signal," but labels the 0–6 kHz resulting signal as a "lower subband."  *Id*.; Kotzin Decl. at ¶ 59.  And, Schnitzler describes using down-sampling to "extract" the "lower subband," which reinforces interpreting the parallel discussion of down-sampling in the specification as a description of extracting a lower sub-band. *Compare* Schnitzler at 157-58, *with* '802 Pat. at 8:31–35 (discussing down-sampling "from 16 kHz down to 12.8 kHz"); Kotzin Decl. at ¶ 59.

Finally, SLC argues that the term "wideband signal" should be interpreted in view of the later-authored AMR-WB standard.  *See* SLC Br. at 5.  While Defendants disagree that the AMR-WB standard is relevant to construing "wideband signal," statements by both the named

inventors and VoiceAge, the original assignees of the Asserted Patents, confirm that the AMR-WB standard implements split-band processing, and those documents likewise refer to the 50–6400 Hz sub-band as a "lower sub-band," and not a "wideband signal."  *See* Bessette at 622 ("[t]wo frequency bands, 50–6400 Hz and 6400–7000 Hz, are coded separately");[5] VoiceAge White Paper at 11 ("*The lower frequency band* is coded using an ACELP® algorithm."); *see also* Kotzin Decl. at ¶ 61.

In sum, the extrinsic evidence, consistent with the specification's teachings, confirms that (1) the ordinary meaning of "wideband signal" requires a frequency of 50–7,000 Hz and a sampling rate of 16,000 samples/sec, and (2) sub-bands of a wideband signal, which result from split-band processing, are not wideband signals.

For these reasons, the Court should conclude that "[synthesized] [weighted] wideband [speech] signal" means "a [synthesized] [weighted] [speech] signal that spans a wider bandwidth than traditional telephone signals and that has a frequency range of 50–7000 Hz sampled at 16000 samples/sec."

### B.    "fixed denominator"

| Plaintiff's Construction | Defendants' Construction |
|---|---|
| No construction is necessary.<br><br>Alternatively: "a denominator that does not vary in time with the LP parameters $a_i$" | "a denominator that does not vary in time with the LP parameters $a_i$" |
| This term is found in claims 1 and 8 of the '524 Patent. | |

Defendants proposed to SLC that the parties could reduce the issues before the Court by agreeing to SLC's alternative construction for this term—which SLC first offered on the eve of filing its brief—i.e., that "fixed denominator" should be construed to mean "a denominator that

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[5]  In fact, Bessette notes that "*the lower frequency band* (50–6400 Hz) goes far beyond narrowband telephony," but does *not* refer to the "lower frequency band" as a wideband signal. Bessette at 622.

does not vary in time with the LP parameters $a_i$." *See* Ex. A-11 (B. Davis e-mail on Dec. 20 at 8:31 AM PST).  But SLC declined to stipulate to its own alternative construction.  *See* Ex. A-12 (M. McBride e-mail on Dec. 20 at 11:07 AM PST).

Despite arguing that "fixed denominator" does not require construction, SLC does not argue—much less provide evidence—that "fixed denominator" has a customary plain and ordinary meaning to a person of skill in the art.[6]  And as the Federal Circuit has said, "absent such an accepted meaning [in the art], we construe a claim term only as broadly as provided for by the patent itself."  *Irdeto Access, Inc. v. Echostar Satellite Corp.*, 383 F.3d 1295, 1300 (Fed. Cir. 2004).

As SLC's brief concedes, the patentee's "clear description from the prosecution history" defines the meaning of "fixed denominator" within the context of the 524 Patent.  SLC Br. at 11. That definition controls.  *See TecSec, Inc. v. Int'l Bus. Machs.*, 731 F.3d 1336, 1345-46 (Fed. Cir. 2013) ("Here, the inventor's definition of 'multi-level multimedia security' [during prosecution] governs.").  SLC's refusal to agree to the patentee's acknowledged definition implies that it would rather preserve its ability to argue a different plain and ordinary meaning at trial.  That is impermissible.

The Court should conclude that "fixed denominator" means "a denominator that does not vary in time with the LP parameters $a_i$."

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[6] SLC argues that a person of skill in the art "would readily understand" what this term means because it appears in the later-published AMR-WB standard.  *See* SLC Br. at 11.  But even if the later-published standard were relevant extrinsic evidence—it is not—that standard does not use the term "fixed denominator," let alone describe what that term means.

**C.** **"A [device/method] for enhancing periodicity of an excitation signal produced in relation to a pitch codevector and an innovation codevector for supplying a signal synthesis filter in view of synthesizing a wideband speech signal"**

| Plaintiff's Construction | Defendants' Construction |
|---|---|
| This term is the preamble to asserted claims in the '805 Patent. As such, the term is not limiting. | Preamble is limiting. |
| This preamble is found in Claims 1 and 11 of the '805 Patent. ||

The Court construed this term twice in the prior cases. After an initial round of claim construction briefing, the Court issued a preliminary claim construction order, finding that the preamble of Claim 1 was subject to 35 U.S.C. §112(6). *See* Preliminary Constructions in *Saint Lawrence Commc'ns v. HTC*, Case No. 2:15-cv-00919, at 11 (from Markman Hearing on Jun. 29, 2016) ("Prelim. Const."). Indeed, SLC had not disputed that the preamble was limiting. Following the preliminary construction, however, SLC submitted a supplemental claim construction brief, arguing that the preamble was not limiting. 349 Action, D.I. 210 at 1-2 (Aug. 29, 2016) ("SLC Supp. Br."). Defendants' sur-reply brief in the prior case argued that SLC had waived the preamble issue without substantively explaining why the preamble is limiting. 349 Action, D.I. 211-1 at 1-2 (Sep. 6, 2016) ("Defs. Sur-reply"). As such, the Court was presented with an incomplete record. Based on that limited record, the Court subsequently issued a claim construction order finding that the preamble was not limiting. Order at 79–80.

The complete record demonstrates that the preambles of Claims 1[7] and 11 of the '805 Patent are limiting for three reasons. First, several elements in the body of the claim depend on the preamble for antecedent basis. *ChriMar Sys., Inc. v. Alcatel-Lucent, Inc.*, No. 6:13-CV-880-

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[7] The preamble of Claim 1 states "A device for enhancing periodicity of an excitation signal produced in relation to a pitch codevector and an innovative codevector for supplying a signal synthesis filter in view of synthesizing a wideband speech signal, said periodicity enhancing device comprising:".

JDL, 2015 WL 233433, at *7 (E.D. Tex. Jan. 8, 2015) ("Dependence on a particular disputed preamble phrase for antecedent basis may limit claim scope because it indicates a reliance on both the preamble and claim body to define the claimed invention.") (quoting *Catalina Mktg. Int'l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002)).   For example, the preambles recite "an excitation signal," "an innovation codevector," and "a wideband speech signal," each of which provides the antecedent basis for corresponding limitations "*the* excitation signal," "*the* innovative codevector," and "*the* wideband speech signal" in the body of the claims.   *See Blue Calypso, Inc. v. Groupon, Inc.*, 93 F. Supp. 3d 575, 593–94 (E.D. Tex. 2015) (Gilstrap, J.) (finding the "entireties of the preambles [were] limiting" when the "language relied upon for antecedent basis [was] intertwined with the entireties of the preambles").

Second, the claim body is not structurally complete without the preamble.   *See Catalina Mktg.*, 289 F.3d at 808.   For example, the preamble of Claim 1 recites "*an excitation signal produced in relation to a pitch codevector and an innovative codevector.*"   '805 Pat. at Claim 1. The claim body, however, recites an "innovative codevector" and an "excitation signal," but not a "*pitch* codevector."   *Id.*   But, the device in the claim body would not function without the pitch codevector recited in the preamble: the "excitation signal" in a CELP speech coding system described and claimed in the '805 Patent is produced by combining the innovative codevector with a pitch codevector.   *See, e.g.*, '805 Pat. at 1:46–50 (stating that the "excitation signal" in CELP "usually consists of two components: one from the past excitation (also called pitch contribution or adaptive codebook or pitch codebook) and the other from an innovative codebook").   Thus, the patentee chose to use both the preamble and the body to define the claimed invention.   *See Bell Commc'ns Research, Inc. v. Vitalink Commc'ns Corp.*, 55 F.3d 615, 620 (Fed. Cir. 1995) ("[W]hen the claim drafter chooses to use *both* the preamble and the body

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to define the subject matter of the claimed invention, the invention so defined, and not some other, is the one the patent protects.") (emphasis in original).

Finally, the examiner required as a "condition for allowance" that the claims be amended to "specify a wideband 'speech' signal in place of a 'wideband signal' in all applicable claims since, in the present claims it is unclear as to what is *being synthesized*." *See* '805 Pat. File History, Interview Summary dated May 13, 2004, at SLFH00001380.   The only reference to "synthesiz[ing]" in Claims 1 and 11 is in the preamble.  And the preambles of Claims 1 and 11 were subsequently amended to address the examiner's rejections and limit the claims by clarifying that the claimed device is "synthesizing a wideband signal."   '805 File History, Interview Summary dated June 16, 2004, at SLFH00001393 (entering Examiner's Amendment from the May 13, 2004 Interview Summary).  This further confirms that the patentee defined the alleged invention within both the preamble and the body of the claims. *See Bell Commc'ns*, 55 F.3d at 620.

For these reasons, the Court should hold that the preambles of Claims 1 and 11 of the '805 Patent are limiting.

### D.      "high frequency content"

| Plaintiff's Construction | Defendants' Construction |
|---|---|
| No construction necessary. | Indefinite. |
| This term is found in Claims 1 and 8 of the '524 Patent. | |

Claims 1 and 8 of the '524 Patent and its asserted dependent claims are indefinite because the scope of "high frequency content" cannot be reasonably ascertained.  *See Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014); *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1350 (Fed. Cir. 2005) ("Some objective standard must be provided in order to allow the public to determine the scope of the claimed invention").  In the prior cases, the

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Court rejected the argument that "high frequency content" and "low frequency portion" were indefinite.  Order at 117–23.  In doing so, the Court held that the "use of the word 'low' is appropriate because the relative bandwidths and the precise manner of filtering are implementation-specific details," and that "high frequency content" was not indefinite for substantially the same reasons.  *Id.* at 120, 123.  Defendants respectfully submit that the specification contains conflicting teachings that were not presented to the Court in the prior cases, leaving uncertainty about the scope of the "high" and "low" frequency claim terms.

Claims 1 and 8 require "a signal preemphasis filter responsive to the wideband speech signal for enhancing a high frequency content of the wideband speech signal" and "filtering the wideband speech signal to produce a preemphasised signal with enhanced high frequency content."  '524 Pat. at 18:29–32, 19:10–12.  The plain language of the claims does not provide an objective indication of what frequencies qualify as "high frequency."  Kotzin Decl. at ¶¶ 67-68.  And, the specification provides two conflicting disclosures regarding what "high frequency" means.  *Id.* at ¶¶ 69-76.

One way to interpret the specification is that "high frequency" refers to the upper sub-band of frequencies above 6,400 Hz.  Kotzin Decl. at ¶¶ 70-71.  The specification explains that an input wideband signal "is down-sampled from 16 kHz down to 12.8 kHz," which removes frequencies above 6,400 Hz.  '524 Pat. at 7:46–48; Kotzin Decl. at ¶¶ 70-71.  The specification refers to this numerical range above 6,400 Hz as "high frequency."  For example, it explains that the down-sampled signal "does not contain the higher frequency components which were lost by the down-sampling process."  '524 Pat. at 16:36–44.  The "higher frequency components which were lost" refers to signal components above 6,400 Hz.  Kotzin Decl. at ¶¶ 70-71. SLC's expert conceded in the prior cases that "high frequency" of a wideband signal refers to frequencies

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above 6,400 Hz, arguing that "[s]ince no bits were used at the encoder to describe the high frequency components (i.e., components above 6,400 Hz) of the input wideband speech signal, the receiver must generate those components."  349 Action, D.I. 71-25, at ¶ 65 (Nov. 30, 2015) ("Prior Ogunfunmi Decl."). Likewise, the specification also refers to the frequencies regenerated at the decoder side as "high frequency." *See* '524 Pat. at 16:41–46 ( "To restore the full band of the original signal, a high frequency generation procedure is disclosed. . . .  In this new approach, the high frequency contents are generated by filling the upper part of the spectrum . . . ."). Moreover, if "high frequency" refers to frequencies above 6,400 Hz removed by down-sampling, "low frequency" logically refers to the residual frequencies—i.e., frequencies below 6,400 Hz. Kotzin Decl. at ¶ 72.

But different portions of the specification cast doubt on that reading otherwise.  For example, the specification describes subdividing the lower sub-band of frequencies below 6,400 Hz into further "high" frequency and "low" frequency portions.  Kotzin Decl. at ¶¶ 74–75. For example, the specification explains that the preemphasis filter receives the down-sampled input signal (i.e., the signal with frequencies below 6400 Hz) and "enhance[s] the high frequency contents of the input signal."  '524 Pat. at 8:9–11.  Likewise, the specification references a filter that receives the down-sampled signal with frequencies below 6,400 Hz and lowering its energy "at low frequencies when the excitation signal u is more periodic, which enhances the periodicity of the excitation signal u at lower frequencies more than higher frequencies."  *Id.* at 14:33–36. Thus, the specification is inconsistent in its use of "high" and "low" frequencies, leaving a person of skill in the art uncertain regarding the scope of those claim terms.  Kotzin Decl. at ¶ 76.

To overcome the specification's inconsistency, SLC attempts to define "high frequency" as the output of the preemphasis filter.   SLC Br. at 16.   Under this interpretation, "high

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frequency" refers to what is enhanced by the preemphasis filter. *Id.* This interpretation adds to the ambiguity surrounding "high" and "low" frequencies, and puts the cart before the horse. Whether a "preemphasis filter" falls within the scope of the claims depends on the frequencies that it enhances, not *vice versa*. Depending on the meaning of "high frequency content," a preemphasis filter can emphasize (a) all frequencies above 50 Hz, (b) all frequencies above 6,400 Hz, or (c) all frequencies above a cutoff frequency somewhere between 50 and 6,400 Hz. Kotzin Decl. at ¶ 79. Without knowing how to distinguish "high" versus "low" frequency content it is not possible to distinguish non-infringing filters that act on low frequencies from allegedly infringing filters that enhance the high frequencies. *Id.* at ¶¶ 79–80. Thus, the scope of the claims cannot be reasonably ascertained. *Id.* at ¶¶ 80, 82.

Finally, SLC repeats verbatim its failed arguments that the phrase, "for enhancing a high frequency content," is not a limitation. *Compare* SLC Br. at 15-16 *with* 349 Action, D.I. 71 at 22-23 (Nov. 30, 2015) ("Prior SLC Br."). For the reasons that the Court described in its Prior Order, SLC is wrong. In particular, the claimed enhancing of high frequency content adds limitations to the manner of filtering required. *See* Order at 122–23.

For these reasons, the Court should conclude that Claims 1 and 8 of the '524 Patent are indefinite.

### E.    "low frequency portion"

| Plaintiff's Construction | Defendants' Construction |
|---|---|
| No construction necessary. | Indefinite. |
| This term is found in Claims 1 and 11 of the '805 Patent. | |

For the same reasons explained in connection with the "high frequency" term, the claimed "low frequency portion" of Claims 1 and 11 of the '805 Patent is indefinite. Because the specification offers inconsistent teachings of what "high" and "low" frequencies mean, a person

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of skill in the art cannot reasonably ascertain the scope of "low frequency portion." *See Nautilus*, 134 S. Ct. at 2124; Kotzin Decl. at ¶¶ 89–91.

As with "high frequency," SLC argues that "application of the innovation filters recited in the '805 Patent's specification" resolves the ambiguity created by the specification's contrary teachings regarding "high" and "low" frequencies. SLC Br. at 15. This is again putting the cart before the horse. Without knowing what constitutes the "low frequency portion," it is not possible to distinguish non-infringing filters from allegedly infringing innovation filters of Claims 1 and 11 that "enhance periodicity of a low frequency portion of the excitation signal." *See* '805 Pat. at 18:23–27; 19:44–48; Kotzin Decl. at ¶¶ 90-91. *See Nautilus*, 134 S.Ct. at 2130 (that "a court can ascribe *some* meaning to a patent's claims" is not enough to meet the definiteness requirement of § 112) (emphasis in original).

Moreover, SLC repeats verbatim its failed argument from the prior cases that the "low frequency portion" is part of non-limiting surplus claim language. *Compare* SLC Br. at 14–15; *with* Prior SLC Br. at 118-20. But as the Court held in the prior cases, what follows the "thereby" clause in the claim is a limitation because it imposes "additional limitations on the manner of [the claimed] filtering." Order at 118–20; *see also* '805 Pat. at Claim 1 ("an innovation filter for filtering the innovative codevector in relation to said periodicity factor to *thereby reduce energy of a low frequency portion of the innovative codevector*").

For these reasons, the Court should conclude that the term "low frequency portion" is indefinite.

## F.     "wherein γ2 is set equal to μ"

| Plaintiff's Construction | Defendants' Construction |
|---|---|
| No construction necessary. | Indefinite. |
| This term is found in Claims 7, 14, 21, 35, and 42 of the '524 Patent. | |

The term "μ" has no antecedent basis within the phrase "wherein γ2 is set equal to μ" in dependent Claims 7, 14, 21, 35, and 42 of the '524 Patent (the "challenged claims"), rendering those claims indefinite.  SLC implies that the antecedent basis and context for the term "μ" in the challenged claims is identical to the use of "μ" in Claims 5, 12, 19, 33, and 40 (the "unchallenged claims").  SLC Br. at 17–18.  But the unchallenged claims have an added limitation defining a specific preemphasis filter in which μ appears—"$P(z)=1-\mu z^{-1}$"—and further defining what μ is within that filter ("wherein μ is a preemphasis factor having a value located between 0 and 1").  Further, as explained below, the specification teaches that the filter described in the preferred embodiment is one form of a filter compatible with the claims, and that others can be used as well (which may use the same values of μ described in the specification).

As shown in the chart below, Claim 5 depends from Claim 4 and Claim 7 depends from Claim 6.

| | |
|---|---|
| **4**. A perceptual weighting device as defined in claim **2**, wherein said perceptual weighting filter has a transfer function of the form:<br><br>$$W(z)=A \ (z/\gamma_1)/(1-\gamma_2 z^{-1})$$<br><br>where $0<\gamma_2<\gamma_1\leqq1$ and $\gamma_2$ and $\gamma_1$ are weighting control values.<br>  **5**. A perceptual weighting device as defined in claim **4**, wherein $\gamma_2$ is set equal to $\mu$. | **6**. A perceptual weighting device as defined in claim **1**, wherein said perceptual weighting filter has a transfer function of the form:<br><br>$$W(z)=A \ (z/\gamma_1)/(1-\gamma_2 z^{-1})$$<br><br>where $0<\gamma_2<\gamma_1\leqq1$ and $\gamma_2$ and $\gamma_1$ are weighting control values.<br>  **7**. A perceptual weighting device as defined in claim **6**, wherein $\gamma_2$ is set equal to $\mu$. |

Claims 5 and 7 are identical except Claim 5 depends from Claims 4, 2, and 1, while Claim 7 depends from Claims 6 and 1.  And Claim 2 defines the term "μ" as a preemphasis factor as used in a particular claimed transfer function:[8]

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[8] The same comparison that exists for claims 5 and 7 also applies to each of the following claim pairs, respectively:  Claims 12 and 14; Claims 19 and 21; Claims 33 and 35; and Claims 40 and 42.

**2**. A perceptual weighting device as defined in claim **1**, wherein said signal preemphasis filter has a transfer function of the form:

$$P(z)=1-\mu z^{-1}$$

wherein $\mu$ is a preemphasis factor having a value located between 0 and 1.

Thus, while the term "$\mu$" in Claim 5 derives antecedent basis and needed context from Claim 2, Claim 7 has neither.  And reading in Claim 2's defined transfer function into Claim 7 violates claim differentiation law—"when a patent claim does not contain a certain limitation and another claim does, that limitation cannot be read into the former claim in determining either validity or infringement."  *SRI Int'l v. Matsushita Elec. Corp. of Am.*, 775 F.2d 1107, 1122 (Fed. Cir. 1985); *see also H-W Tech., L.C. v. Overstock.com, Inc.*, 758 F.3d 1329, 1333 (Fed. Cir. 2014) ("Although other claims do contain the missing limitation, the inclusion of that limitation in one claim does not necessitate, or even fairly indicate, that the limitation should be included in all other claims.").

Moreover, SLC states that "no construction is necessary" for this term, as if the variable $\mu$ has a plain and ordinary meaning, yet relies on selective citations to the specification to argue that "the specification adequately defines what '$\mu$' means."  SLC Br. at 18 (quoting '524 Pat. at 7:67–8:5) (stating "the signal $s_p(n)$ is preemphasized using a filter having the following transfer function: $P(z)=1-\mu z^{-1}$ where $\mu$ is a preemphasis factor with a value located between 0 and 1").  But the specification states in the very next sentence that "[a] higher-order filter *could also be used*."  '524 Pat. at 8:5-6.  Thus, the challenged claims are not necessarily limited to the described transfer function $P(z)=1-\mu z^{-1}$, much less the preferred values of $\mu$ within it as SLC suggests.  Kotzin Decl. at ¶ 101-103.  Without being tied to a particular transfer function and range of values, the meaning of the variable "$\mu$" cannot be reasonably ascertained.  Kotzin Decl. ¶¶ 98, 101-103 (explaining that neither the variable "$\mu$" nor the phrase

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"preemphasis factor" have meaning outside of a particular transfer function); *see Nautilus*, 134 S. Ct. at 2129.

In sum, the term μ does not have the required antecedent basis or context in the challenged claims and it is improper for the Court to infer one from other claims or from the specification.

For these reasons, the Court should conclude that Claims 7, 14, 21, 35, and 42 are indefinite.

### G.     "said excitation signal"

| Plaintiff's Construction | Defendants' Construction |
|---|---|
| No construction necessary and the term should be given its plain and ordinary meaning. | "the excitation signal produced by combining said pitch codevector and said innovative codevector in step (d)/[step (iv)]"<br>-or-<br>"the excitation signal produced by combining said pitch codevector and said innovative codevector in element (d)/[element (iv)]" |
| This term is found in Claims 1, 9, and 25 of the '802 Patent. ||

Defendants' construction seeks to confirm the plain language and structure of Claims 1, 9, and 25 of the '802 Patent.  Specifically, each claim first recites "an excitation signal" followed by "said excitation signal," and Defendants seek to confirm that they are both referring to the same "excitation signal."  SLC fails to explain why Defendants' proposal should not be adopted.

Unable to raise any substantive challenge, SLC's brief incorrectly implied that the reference to "steps" in Defendants' construction "suggests to the Jury that these claims are method claims as opposed to system claims."  SLC Br. at 18-19.  In an effort to potentially resolve the disputes as to this term, Defendants agreed to replace the word "step" with the word "element" in its construction.  Defendants also requested that SLC stipulate that "said excitation signal" is not anything other than "the excitation signal produced by combining said pitch

codevector and said innovative codevector in element (d)/[element (iv)]."  *See* Ex. A-11.  But

SLC refused.  SLC argued that it was "concerned that Defendants may attempt to misuse any

construction to later read out the preferred embodiment of the '802 Patent."  *See* Ex. A-12.

SLC's failure to stipulate implies that it is attempting to put forth at trial an infringement

case that maps "an excitation signal" and "said excitation signal" to two different excitation

signals respectively.  Such an interpretation of the claims is contrary to the claim language and

governing Federal Circuit law.  The Court should resolve this fundamental dispute over claim

scope and not leave the decision for the jury.  *Eon Corp. IP Holdings LLC v. Silver Springs*

*Networks,* 815 F.3d 1314, 1319 (Fed. Cir. 2016) ("By determining only that the terms should be

given their plain and ordinary meaning, the court left this question of claim scope unanswered,

leaving it for the jury to decide. This was legal error.") (citing *O2 Micro Int'l Ltd. v Beyond*

*Innovation Tech. Co*., 521 F.3d 1351, 1362 (Fed. Cir. 2008)).

The plain claim language resolves this dispute.  The relevant portion of these claims

requires "a combiner circuit for combining said pitch codevector and said innovative codevector

to thereby produce *an excitation signal*" and then recites "a linear prediction filter for filtering

*said excitation signal*."  *See* '802 Pat. at Claim 1.  Defendants' construction confirms, consistent

with well-known antecedent basis case law, that "said excitation signal" that is filtered is the

*same* "excitation signal" produced in the "combiner circuit" that is referenced earlier in the

claim.  *Warsaw Orthopedic, Inc. v. NuVasive, Inc.*, 824 F.3d 1344, 1349-51 (Fed. Cir. 2016)

("[t]he claim language 'said' means that *the 'stimulus signal*' and 'predetermined neuromuscular

response' elements modified by 'said' *are the same signal* and response referenced earlier in the

claim.") (citations omitted); *Summit 6, LLC v. Samsung Elecs. Co.*, 802 F.3d 1283, 1291 (Fed.

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Cir. 2015) (holding that "said" indicated an earlier use of the term in the claim); *Intamin Ltd. v. Magnetar Techs., Corp.*, 483 F.3d 1328, 1333 (Fed. Cir. 2007) (same).

Moreover, SLC's email response indicates that it intends to argue that Defendants' construction is improper because it purportedly reads out an illustrated embodiment.  But even if this were true, "[i]t is not necessary that each claim read on every embodiment." *Baran v. Med. Device Techs., Inc.*, 616 F.3d 1309, 1316 (Fed. Cir. 2010).   There are other claims in the Asserted Patents that cover the illustrated embodiment. *See, e.g.,* '805 Pat. at Claim 21.  And the Court should not rewrite these particular claims (namely, Claims 1, 9, and 25) to cover that same embodiment. *Helmsderfer,* 527 F.3d at 1383-84 ("As Brocar did not act as its own lexicographer and alter the ordinary meaning of the term 'partially,' we cannot construe these particular claims to encompass a preferred embodiment or other illustrated embodiments.  Courts cannot rewrite claim language.") (citations omitted).

For these reasons, the Court should conclude that "said excitation signal" means "the excitation signal produced by combining said pitch codevector and said innovative codevector in step/element (d)/[step/element (iv)]."

## IV.  Other Terms Addressed by Saint Lawrence

Saint Lawrence briefed eight other terms that the Court previously determined are subject to § 112(6).  Defendants take no position on these terms beyond what was already briefed and incorporated by reference pursuant to D.I. 93, Order Granting the Parties' Joint Motion for Entry of Prior Claim Construction Order as to Certain Specified Terms.

## V.  Conclusion

For the foregoing reasons, Defendants' constructions should be adopted.

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## CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true and correct copy of the above and foregoing document has been served on December 21, 2016 to all counsel of record who are deemed to have consented to electronic service via the Court's CM/ECF system per Local Rule CV-5(a)(3).

*/s/ Melissa R. Smith*